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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,530	09/27/2001	Yutaka Bannai	NEC-469-US	9260

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MCGINN & GIBB, PLLC  
8321 OLD COURTHOUSE ROAD  
SUITE 200  
VIENNA, VA 22182-3817

EXAMINER

CREPEAU, JONATHAN

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/963,530

Applicant(s)

BANNAI ET AL.

Examiner

Jonathan S. Crepeau

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 22-24 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 and 27-31 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-8, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/27/05
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action addresses claims 1-8, 22-24, and newly added claims 27-31. Claims 24 and 27-31 are allowable and claims 3 and 4 contain allowable subject matter. Claims 1, 2, 5-8, 22, and 23 are newly rejected under 35 USC §102 and §103, but these rejections were not necessitated by amendment. Accordingly, this action is non-final.

### ***Information Disclosure Statement***

2. The Japanese Office action cited on the IDS of January 27, 2005 has been considered but has not been made of record because it is an unpublished document. If Applicants wish to have this citation printed on the face of the patent resulting from this application, they are requested to communicate such in the next response.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 1-154462. The reference is directed to a secondary battery having an aromatic polymeric compound comprising boron as an electrode material. In a fully oxidized state, the compound comprises boron radicals (i.e., the third compound at the top of page 3). In a partially reduced/oxidized state, the material also comprises boron radicals (i.e., the second compound). Regarding claim 6, the bottom compound also represents a “starting state” of the compound. Regarding claim 5, the compound would inherently have a spin concentration of  $10^{21}$  spins/g.

Thus, the instant claims are anticipated.

#### *Claim Rejections - 35 USC § 103*

5. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 1-154462.

The abstract of JP ‘462 does not specify which electrode comprises the boron-containing polymer, or the materials contained in the electrode of the opposite polarity.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the electrode materials recited in claims 22 and 23 are well-known, and advantageously used in, lithium batteries. In particular, transition metal oxides and carbonaceous materials are used in lithium batteries to obtain high voltage and safety characteristics. As such, these materials are not considered to distinguish over the

reference. As a further note, if the boron-containing polymer of the reference is used in only one of the electrodes of the reference, such electrode would function as both a positive and negative electrode depending on whether the battery was being charged or discharged.

*Allowable Subject Matter*

6. Claims 24 and 27-31 are allowed.
7. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter:  
  
The reasons for allowance of claim 24 were given in the previous Office action and remain applicable.  
  
Regarding claims 3 and 4, JP 1-154462 does not teach or fairly suggest the claimed compounds. As such, these claims contain allowable subject matter.

*Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached at (571) 272-1414. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau  
Primary Examiner  
Art Unit 1746  
March 6, 2005